

Acquired oscillopsia: Potential complication after multifocal IOL implantation

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A healthy 60-year-old woman had uneventful bilateral sequential cataract surgery with diffractive multifocal intraocular lens (IOL) implantation. Immediately after surgery in the first eye, the patient complained of right monocular oscillopsia during motion. Surgery in the second eye was followed by the same symptoms. Ocular motility was normal. Any movement of head or eye was accompanied by oscillopsia, disappearing immediately upon cessation of movement. Slitlamp examination revealed pseudophacodonesis, without obvious zonular laxity. We postulate that the rapid oscillation of an unsteady multifocal IOL during head or eye movement caused the optical steps to pass in front of the visual axis. Cataract surgeons must be aware of this potential, but rare, complication before deciding to implant a multifocal IOL.

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 Online Video

Oscillopsia is a visual illusion in which the patient has the impression of a moving environment. It is often associated with decreased visual acuity and is a symptom usually encountered in patients with neurological diseases. Differential diagnosis of oscillopsia includes abnormal spontaneous eye movements such as nystagmus or square-wave jerks and impaired vestibulo-ocular reflex resulting from bilateral vestibulopathy or cerebellar disorders. Oscillopsia has rarely been reported after cataract surgery^{1,2} and never after implantation of a multifocal intraocular lens (IOL).

CASE REPORT

A 60-year-old woman had uneventful phacoemulsification of the right eye with implantation of a diffractive multifocal

posterior chamber intraocular lens (PC IOL) (Acrysof IQ Restor). Immediately after surgery, she complained of monocular oscillopsia of the right eye during eye or head motion, disappearing immediately upon cessation of movement. Two weeks later, the same type of multifocal PC IOL was implanted in the right eye, and the patient again complained of monocular oscillopsia in the left eye. She was referred for investigations of oscillopsia. The patient's medical history was unremarkable.

The corrected visual acuity was 20/20 in both eyes for distance and near vision. Ocular motility was normal except for a few square-wave jerks. Dilated funduscopy did not reveal any pertinent abnormalities. Slitlamp examination was unremarkable, both IOLs being centered without obvious zonular laxity. Oscillopsia occurred during any movement of head or eyes and disappeared immediately upon resting. Careful examination during eye motion revealed a shimmering of the IOL in both eyes ([Video 1](#)). The patient declined an IOL exchange for a monofocal IOL. One year later, the symptoms remained unchanged.

DISCUSSION

Oscillopsia, a visual illusion in which steady objects appear to paradoxically move, to oscillate, is a symptom commonly encountered in patients suffering from neurological diseases. Our patient was free of any neurological disorder. Neuro-ophthalmologic examination was normal apart from a few square-wave jerks interrupting fixation, but these were not associated with any visual disturbance. Monocular oscillopsia of the right eye appeared immediately after cataract surgery in that eye and was present

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exclusively upon movement of the head or eye. The unoperated fellow eye was asymptomatic at the time of the initial surgery but also became symptomatic immediately after it was operated on. Both eyes benefited from multifocal IOL implantation (Acrysof IQ Restor IOL).

Multifocal IOLs are used to correct presbyopia after cataract by applying the principle of simultaneous vision. Multifocal IOLs work on a refractive or a diffractive principle and have multifocal zones or steps. However, visual results are not always optimal, as some patients complain of reduced contrast sensitivity, halos, and glare.³

Adequate positioning of a multifocal IOL is important. Eccentricity could result in an optical step being very close to the visual axis. In our patient, both IOLs were perfectly centered. In eyes with large angle kappa (ie, the angle between visual and pupillary axes), a fovea centric ray may hit the edge of the ring, causing edge glare effects and oscillopsia during motion if combined with pseudophacodonesis.⁴ Our patient exhibited a small angle kappa.

Pseudophacodonesis (excessive mobility of the IOL implant) may result from zonular weakness due to pseudoexfoliation or zonular dialysis during phacemulsification. Lauer and Herzig² describe a case of monocular oscillopsia after cataract surgery with monofocal IOL implantation due to pseudophacodonesis, but occurring only when shifting focus from distance to near. In this setting, the authors postulate that oscillopsia resulted from pseudoaccommodation and change in IOL position. In our case, slitlamp

examination revealed the presence of pseudophacodonesis even with minor eye or head movements. Neither zonular laxity nor pseudoexfoliation was noticed preoperatively, and cataract surgery was apparently uneventful in both eyes. Head and eye movements resulted in a rapid oscillation of an unsteady multifocal IOL within the capsular bag and probably made the edge of one optical step briefly oscillate in front of the visual axis, causing transient oscillopsia.

This case illustrates that pseudophacodonesis can occur even after straightforward cataract surgery. Further, when associated with multifocal IOL implantation, patients with pseudophacodonesis may experience disturbing transient oscillopsia upon movement. Cataract surgeons should be aware of this potential but rare complication before deciding to implant a multifocal IOL.

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